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PROMISING CANDIDATE INSECTICIDES AND ACARICIDES EVALUATED  
AT BROWNSVILLE, TEX., JULY 1963 TO JULY 1966

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From July 1, 1963, to July 1, 1966, 627 candidate materials were evaluated for insecticide and acaricide activity at Brownsville, Tex. About half the candidates were synthesized by chemists in the Entomology Research Division at Beltsville, Md., or were plant extracts prepared by them. The other candidates were supplied by industrial or other sources.

Earlier evaluations of candidate materials at the Brownsville laboratory were reported by Butt and Keller (1-4)<sup>2/</sup> and Keller and Butt (5).

Of the 627 materials evaluated, 73 were considered to be promising against one or more of the test species and are reported here.

TEST SPECIES

The materials were tested against three species of phytophagous insects and one species of spider mite of economic importance. They were also tested for phytotoxicity to cotton, squash, and lima bean plants.

The species of insects and mites were as follows:

Boll weevil.....	<u>Anthonomus grandis</u> Boheman
Cotton aphid.....	<u>Aphis gossypii</u> Glover
Southern armyworm.....	<u>Prodenia eridania</u> (Cramer)
Two-spotted spider mite.....	<u>Tetranychus urticae</u> (Koch)

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<sup>1/</sup> The authors express their special appreciation to Mrs. E. M. Osborne of this Division, who reviewed the chemical names.

<sup>2/</sup> Numbers in parentheses after the authors' names refer to Literature Cited at the end of this report.

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CURRENT SERIAL RECORDS

The boll weevils used between July 1963 and June 1965 were reared from infested cotton squares collected from fields near Brownsville, Tex., or Tampico, Mexico. Thereafter, boll weevils were obtained from the culture maintained at the Boll Weevil Research Laboratory, State College, Miss. The southern armyworms were reared in the Brownsville laboratory at 80° F. on bean seedlings grown in moist vermiculite and on lettuce and potato tubers. The aphids and spider mites were grown on cotton seedlings in a constant-temperature cabinet at 67° and 82°, respectively.

#### TEST PROCEDURES

In the insect and spider mite tests, each treatment was replicated four times, and the test species were held at 80° + 2° F. after treatment. In the tests against boll weevils, 20 weevils 2 to 3 days old were placed in a screen-wire cage and sprayed with 5 ml. of an acetone solution of the test material in a horizontal wind tunnel at an air velocity of 9 m.p.h. After treatment, the insects were removed from the wind tunnel and held for 48 hours, at which time mortality was recorded.

In the tests with southern armyworms, both sides of a cotton leaf were sprayed with 5 ml. of an acetone solution of the test material. The leaf was then cut in half, and each half was placed in a petri dish with 10 fourth-instar larvae. Mortality was recorded at 48 hours.

In tests against cotton aphids and two-spotted spider mites, cotton seedlings infested with 20 or more aphids or spider mites were sprayed with 5 ml. of an acetone solution of the test material on a turntable turning at 24 r.p.m. in a horizontal wind tunnel with an air velocity of 3.4 m.p.h. The mortality of aphids and mites was recorded after 24 and 72 hours, respectively.

In systemic tests against the cotton aphid and the two-spotted spider mite, cotton seedlings were placed in plant nutrient solution containing various concentrations of the candidate material. Three days later, the seedlings were infested with aphids or spider mites (20 or more per plant). Mortality of both species was recorded 48 hours after the seedlings were infested.

A candidate material was considered promising if it met the following criteria:

Boll weevil - Kill of 50 percent or more in 48 hours at a concentration of 0.05 percent or less.

Southern armyworm - Kill of 50 percent or more in 48 hours at a concentration of 0.01 percent or less.

Cotton Aphid - In spray test, kill of 50 percent or more in 24 hours at a concentration of 0.01 percent or less; in systemic test, kill of 50 percent or more in 48 hours at 0.1 p.p.m. or less.

Two-spotted spider mite - In spray test, kill of 50 percent or more in 72 hours at a concentration of 0.01 percent or less; in systemic test, kill of 50 percent or more in 48 hours at 1 p.p.m. or less.

In the phytotoxicity tests, cotton, squash, and lima bean plants were sprayed in a horizontal wind tunnel with 5 ml. of an acetone solution of the candidate material. Various concentrations of the candidate were used to determine a safe level of use. Observations for phytotoxicity were made 1, 2, 3, and 4 days after treatment. Each treatment was replicated four times.

## RESULTS

The results of these evaluations are shown in table 1.

The lowest percent concentration or dilution in parts per million of the candidate material giving a kill of 50 percent or more of the test species is shown. In a few instances, the material was not tested at a concentration or dilution lower than that shown.

The results of the phytotoxicity tests are given in table 2. Only those materials found to be phytotoxic to one or more of the plant species are listed.

## LITERATURE CITED

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1961. The toxicity of some phosphorothioic acid ester to the two-spotted spider mite. Jour. Econ. Ent. 54: 1259-1260.
- (3) \_\_\_\_\_ and Keller, J. C.  
1963. Laboratory tests of candidate insecticides and acaricides at Brownsville, Texas, 1956-1963. U.S. Dept. Agr. ARS-33-85, 24 pp.
- (4) \_\_\_\_\_ and Keller, J. C.  
1964. Materials evaluated as insecticides and acaricides at Brownsville, Texas, September 1955 to June 1961. U.S. Dept. Agr. Agr. Hbk. 263, 95 pp.
- (5) Keller, J. C., and Butt, B. A.  
1961. Laboratory tests with some phosphoric acid esters against cotton aphids. Jour. Econ. Ent. 54: 1262.

Table 1.-Effectiveness against 4 insect species of most promising candidate materials evaluated at Brownsville, Tex., 1963-66

Item No.	ENT No.	Chemical	Kill of 50 percent or more at indicated percent concentration or parts-per-million dilution										Other designation
			Boll Southern weevil, armyworm, spray test		Cotton aphid, systemic spray test		Two-spotted spider mite, systemic spray test		Percent		P.p.m.		
			Percent	Percent	Percent	Percent	Percent	Percent					
			Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent			
1	27,386-X	Acetic acid, mercaptophenyl-, ethyl ester, S-ester with O,O-dimethyl phosphorodithioate	0.01	0.01	-	-	0.001	-	-	-	Thompson-Hayward Cidal		
2	27,341	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester	.05	.001	-	-	-	-	-	-	du Pont Ins. 1179		
3	27,211	Butyric acid, 4-hydroxy-2-mercapto-, gamma-lactone, S-ester with O,O-diethyl phosphorodithioate	-	-	-	-	.01	-	-	-	General Chemical GC-9879		
4	27,333	Butyric acid, 4-hydroxy-2-mercapto-, gamma-lactone, S-ester with O,O-diethyl phosphorothioate	-	-	-	-	.01	-	-	-	General Chemical GC-10101		
5	27,046	Carbamic acid, 2-[(mercaptomethyl)thio]ethyl ester, S-ester with O-isopropyl O-methyl phosphorodithioate	-	-	-	-	.001	-	-	-	Stauffer R-6395		
6	27,179	Carbamic acid, ethyl-, 2-[(mercaptomethyl)thio]ethyl ester, S-ester with O-isopropyl O-methyl phosphorodithioate	.01	-	-	-	.01	-	-	-	Stauffer R-6790		
7	25,801	Carbamic acid, (2-mercaptoethyl)-, ethyl ester, S-ester with O,O-dimethyl phosphorodithioate	-	-	-	-	.01	1.0	-	-	Stauffer R-3422-S		
8	27,128	Carbamic acid, methyl-, 5-sec-butyl-2-chlorophenyl ester	.05	-	-	0.001	-	-	-	-	Chevron RE-5655		
9	25,911	Carbamic acid, methyl-, 5-tert-butyl-2-chlorophenyl ester	-	.01	-	-	.001	-	-	-	Hercules 9326		
10	27,109	Carbamic acid, methyl-, 4-(diallylamino)-3,5-xylol ester	.01	-	-	-	-	-	-	-	Vero Beach BAY 50282		
11	27,164	Carbamic acid, methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	.05	-	-	.001	-	-	-	-	Niagara NIA-10242		
12	27,324	Carbamic acid, methyl-, 2,3-dihydro-2-methyl-7-benzofuranyl ester	.05	-	-	-	-	-	-	-	Vero Beach BAY 62863		

13	27,047	Carbamic acid, methyl-, 2-[(mercaptomethyl)thio]=ethyl ester, <u>S</u> -ester with <u>O</u> -isopropyl <u>O</u> -methyl phosphorodithioate	-	-	-	.001	-	Stauffer R-6482
14	27,157	Carbamic acid, methyl-, <u>O</u> -[1-(methoxymethyl)=allyl]phenyl ester	-	-	0.001	-	-	Hooker HRS-1631
15	27,044	Carbamic acid, methyl-, 4-methoxy-3,5-xylol ester	-	.01	-	-	-	Shell SD-9077
16	27,127	Carbamic acid, methyl-, <u>m</u> -(1-methylbutyl)=phenyl ester	-	-	-	.501	-	Chevron RE-5353
17	27,155	Glycine, <u>N</u> -carboxy-, <u>N</u> -(1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-1,3,4-metheno-2H-cyclobuta=[cd]pentalen-2-yl) ethyl ester	-	-	.001	-	-	General Chemical GC-8266
18	15,156	4,7-Methanoindan, 1,2-dibromo-4,5,6,7,8,8-hexachloro-3a,4,7,7a-tetrahydro-	-	-	-	.1	-	Velsicol 46-CS-72
19	27,005	4,7-Methanoindan, 1,2,3,4,5,6,7,8,8-nonachloro-3a,4,7,7a-tetrahydro-	-	-	-	.1	-	Velsicol 48-CS-104
20	27,153	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-ol, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-2-methyl-	-	.01	-	-	-	General Chemical GC-9287
21	27,053	2-Norbornene, 1,2,3,4,7,7-hexachloro-5,6-bis-(chloromethyl)-	-	-	-	.001	-	Hercules 12402
22	27,081	Phosphonodithioic acid, ethyl-, <u>O</u> -ethyl ester, <u>S</u> , <u>S</u> -diester with thiodimethanethiol	-	-	-	.01	-	Stauffer N-3734
23	27,082	Phosphonodithioic acid, ethyl-, <u>O</u> -methyl ester, <u>S</u> , <u>S</u> -diester with thiodimethanethiol	-	-	.001	.001	-	Stauffer N-3735
24	27,249	Phosphonodithioic acid, ethyl-, <u>O</u> -methyl <u>S</u> -phenyl ester	-	.01	-	-	-	Stauffer N-3794
25	27,180	Phosphonodithioic acid, methyl-, <u>S</u> [[( <u>p</u> -chlorophenyl)thio]methyl] <u>O</u> -methyl ester	-	-	-	-	-	Stauffer N-4548
26	25,961	Phosphonodithioic acid, methyl-, <u>O</u> -methyl <u>S</u> -phenyl ester	-	-	-	.001	-	Stauffer N-3727
27	27,083	Phosphonothioic acid, ethyl-, <u>O</u> -ethyl ester, <u>S</u> , <u>S</u> -diester with thiodimethanethiol	-	-	.001	.001	-	Stauffer N-3736
28	27,277	Phosphonothioic acid, ethyl-, <u>O</u> -ethyl <u>O</u> -[ <u>p</u> -(methylsulfinyl)phenyl] ester	.05	-	-	-	-	Vero Beach BAY 48792

Table 1.--Continued

Item No.	ENT No.	Chemical	Kill of 50 percent or more at indicated percent concentration or parts-per-million dilution										Other designation <sup>1</sup> /
			Boll		Southern		Two-spotted		Cotton aphid		spider mite		
			weevil, armyworm, spray test		spray test		Systemic test		Systemic test		Systemic test		
			Percent	Percent	Percent	Percent	P.p.m.	P.p.m.	Percent	P.p.m.	Percent	P.p.m.	
29	27,234	Phosphonothioic acid, methyl- <u>1</u> -, <u>O</u> -ethyl ester, <u>O</u> -ester with 2-chloro-4-hydroxybenzonitrile	.05	.01	-	-	-	.01	-	-	-	-	Vero Beach BAY 51294
30	27,276	Phosphonothioic acid, methyl- <u>1</u> -, <u>O</u> -methyl <u>O</u> -[4-(methylsulfinyl)- <u>m</u> -tolyl] ester	.05	-	-	-	-	.01	-	-	1.0	-	Vero Beach BAY 48772
31	27,239	Phosphoramidothioic acid, [(2-hydroxyethyl)=methylthiocarbamoyl]-, <u>O</u> , <u>O</u> -dimethyl ester	-	-	-	-	-	.01	-	-	-	-	Stauffer B-10288
32	27,099	Phosphoric acid, 1-(4-bromo-2-chlorophenyl)-2-chlorovinyl dimethyl ester	-	-	-	.001	-	-	-	-	-	-	Shell SD-8967
33	27,043	Phosphoric acid, 2-bromo-1-(2,4-dichlorophenyl)=vinyl dimethyl ester	-	-	-	-	-	.01	-	-	-	-	Shell SD-8988
34	27,129	Phosphoric acid, dimethyl ester, ester with 3-hydroxy- <u>N</u> -methyl- <u>cis</u> -crotonamide	-	-	-	.001	-	.01	-	-	-	-	Shell <sup>®</sup> Azodrin
35	27,071	Phosphorodithioic acid, <u>O</u> , <u>O</u> -dimethyl <u>S</u> -[(2-methyl-1,3-oxathiolan-2-yl)methyl] ester	-	-	-	-	-	.01	-	-	-	-	Stauffer B-9625
36	25,654	Phosphorodithioic acid, <u>S</u> -{[(2,6-dichlorophenyl)=thio]methyl] <u>O</u> , <u>O</u> -dimethyl ester	.01	-	-	.001	-	.001	-	-	-	-	Geigy G-35165
37	27,269	Phosphorodithioic acid, <u>O</u> , <u>O</u> -diethyl ester, <u>S</u> -ester with <u>N</u> -(2-bromo-1-mercaptoethyl)=phthalimide	-	-	-	-	-	.001	-	-	-	-	Hercules 13843
38	27,320	Phosphorodithioic acid, <u>O</u> , <u>O</u> -diethyl ester, <u>S</u> -ester with <u>N</u> -(2-chloro-1-mercaptoethyl)=phthalimide	.05	-	-	-	-	.01	-	-	-	-	Hercules 14503
39	27,163	Phosphorodithioic acid, <u>O</u> , <u>O</u> -diethyl ester, <u>S</u> -ester with 6-chloro-3-(mercaptomethyl)-2-benzoxazolinone	-	-	-	-	.001	.001	-	-	-	-	Chipman RP-11974
40	27,312	Phosphorodithioic acid, <u>O</u> , <u>O</u> -diethyl ester, <u>S</u> -ester with <u>N</u> -(2-cyanoethyl)-2-mercaptoacetanilide	-	-	-	-	-	.01	-	-	-	-	General Chemical GC-10284

41	27,295	Phosphorodithioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>S</u> -ester with 3-(mercaptomethyl)-2,4-thiazolidinedione	.05	-	-	.01	-	Stauffer R-7239
42	27,070	Phosphorodithioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>S</u> -ester with mercapto-2-propanone, diethyl mercaptole	-	-	-	.001	-	Stauffer B-9323
43	27,036	Phosphorodithioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>S</u> -ester with mercapto-2-propanone, dimethyl mercaptole	-	-	.001	.01	-	Stauffer B-10633
44	27,159	Phosphorodithioic acid, <u>0</u> , <u>0</u> -diethyl <u>S</u> -9-thiabicyclo[4.2.1]nonenyl ester	-	-	.001	-	-	Hooker HRS-1635
45	27,268	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -(2-bromo-1-mercaptoethyl)=phthalimide	-	-	-	.01	-	Hercules 13842
46	27,321	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -(2-chloro-1-mercaptoethyl)=phthalimide	.05	-	-	.01	-	Hercules 14504
47	27,238	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with 2-ethoxy-4-(mercaptomethyl)- $\Delta$ 2-1,3,4-thiadiazolin-5-one	.01	-	-	.01	-	Geigy GS-12968
48	27,257	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -formyl-2-mercapto- <u>N</u> -methylacetamide	.05	-	-	-	1.0	Spencer formothion
49	27,113	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with 2-[(2-mercaptoethyl)sulfinyl]- <u>N</u> -methylpropionamide	-	-	-	.01	-	Chipman RP-13378
50	27,110	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptomethyl)-2-benzoxazolinone	-	-	-	.01	-	Chipman RP-11783
51	27,193	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with 4-(mercaptomethyl)-2-methoxy- $\Delta$ 2-1,3,4-thiadiazolin-5-one	.01	-	-	.001	-	Geigy GS-13005
52	27,296	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptomethyl)-2,4-thiazolidinedione	.05	-	-	.01	-	Stauffer R-7240
53	27,072	Phosphorodithioic acid, <u>0</u> , <u>0</u> -dimethyl ester, <u>S</u> -ester with mercapto-2-propanone, diethyl mercaptole	-	-	-	.01	-	Stauffer B-9627

Table 1.--Continued

Item No.	ENT No.	Chemical	Kill of 50 percent or more at indicated Percent concentration or parts-per-million dilution									
			Boll weevil, spray test		Southern armyworm, spray test		Cotton aphid, systemic test		Two-spotted spider mite, systemic test		Other designation/L	
			Percent	Percent	Percent	Percent	Percent	Percent	P.p.m.	P.p.m.		
54	27,123	Phosphorodithioic acid, S-4,6-dimethyl-2-pyrimidinyl O-ethyl O-isopropyl ester	-	-	.001	.001	.01	-	-	Stauffer R-5763		
55	27,122	Phosphorodithioic acid, S-4,6-dimethyl-2-pyrimidinyl O-ethyl O-propyl ester	.05	-	.001	.001	-	-	-	Stauffer R-5762		
56	27,158	Phosphorodithioic acid, O,O-dimethyl S-9-thiabicyclo[4.2.1]nonenyl ester	-	-	.001	-	-	-	-	Hooker HRS-1634		
57	27,103	Phosphorothioic acid, O-[1-(4-bromo-2-chlorophenyl)-2-chlorovinyl] O,O-diethyl ester	-	.01	-	-	-	-	-	Shell SD-9321		
58	27,162	Phosphorothioic acid, O-(4-bromo-2,5-dichlorophenyl) O,O-dimethyl ester	-	-	.001	-	-	-	-	CELA bromophos		
59	25,996	Phosphorothioic acid, O-(5-chloro-1,2-benzisoxazol-3-yl) O,O-diethyl ester	-	.01	-	-	-	.01	-	Vero Beach BAY 52957		
60	27,120	Phosphorothioic acid, O-[2-chloro-1-(2,4-dibromophenyl)vinyl] O,O-dimethyl ester	-	-	.001	-	-	-	-	Shell SD-9174		
61	27,116	Phosphorothioic acid, O-[2-chloro-1-(2,4-dichlorophenyl)vinyl] O,O-dimethyl ester	-	.01	.001	-	-	-	-	Shell SD-9020		
62	27,118	Phosphorothioic acid, O-[2-chloro-1-(2,5-dichlorophenyl)vinyl] O,O-dimethyl ester	-	-	.001	-	-	-	-	Shell SD-9097		
63	27,144	Phosphorothioic acid, O,O-diethyl ester O-ester with 3-hydroxycoumarin	-	-	.001	.01	.001	-	-	Niagara NIA-9227		
64	27,311	Phosphorothioic acid, O,O-diethyl O-3,5,6-trichloro-2-pyridyl ester	-	.01	-	-	-	-	-	Dow Dursban®		
65	27,165	Phosphorothioic acid, O,O-dimethyl ester, O,O-diester with 4,4'-thiodiphenol	-	-	-	.001	-	-	-	American Cyanamid Abate®		
66	27,042	Phosphorothioic acid, O,O-dimethyl ester, S-ester with 3-(mercaptomethyl)-2-benzoxazolinone	-	-	.001	-	-	.01	-	Niagara NIA-9203		

67	27,248	Phosphorothioic acid, <u>O</u> -isopropyl <u>O</u> -methyl <u>O</u> - <u>p</u> -nitrophenyl ester	-	.01	-	-	-	-	Vero Beach BAY 52553
68	27,147	Phthalimide, <u>N</u> -(8-bromooctyl)-	-	-	-	.1	-	-	Walter Reed Army Medical Center (no designation)
69	27,146	Phthalimide, <u>N,N'</u> -hexamethylenedi-	-	-	-	.1	-	-	Do.
70	27,142	Sodium hydroxytris[lactato(2-)]zirconate (IV)	-	-	-	.001	-	-	National Lead (no designation)
71	27,143	Sodium oxodisulfatozirconate (IV)	-	-	-	.001	-	-	Do.
72	25,207	Tin, chlorotriphenyl-	-	-	-	-	.001	-	Metal & Thermit LS-4442
73	27,261	Tin, tributyl(oleoyloxy)-	-	-	-	-	.01	-	Stauffer N-5117

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1/ Mention of a proprietary product in this publication does not constitute a guarantee or warranty by the U.S. Department of Agriculture.

Table 2.-Phytotoxicity to 3 plants of some promising candidate insecticides and acaricides evaluated at Brownsville, Tex., 1963-66

Item No.			Percent concentration	Phytotoxicity <sup>1</sup> /to plants for indicated days after treatment															Other designation <sup>2</sup>
				Cotton			Squash				Lima beans								
				1	2	3	1	2	3	4	1	2	3	4					
25,207	72	4	0	1	2	3	3	1	4	4	4	2	4	4	4	4	Metal & Thermit LS-4442		
	2	0	1	3	3	3	3	3	4	4	4	1	3	4	4	4			
	1	0	1	1	1	1	1	2	4	4	4	2	4	4	4	4			
	.5	0	0	0	0	0	0	2	4	4	4	0	4	4	4	4			
	.25	-	-	-	-	-	-	1	3	3	4	0	4	4	4	4			
	.1	-	-	-	-	-	-	2	3	4	4	1	3	4	4	4			
	.05	-	-	-	-	-	-	0	1	1	2	0	2	3	3	3			
25,911	9	4	0	0	0	0	0	0	1	3	4	0	0	1	1	1	Hercules 9326		
	2	-	-	-	-	-	-	0	1	1	1	0	0	0	1	1			
	1	-	-	-	-	-	-	0	0	1	1	0	0	0	0	0			
	.5	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-			
25,996	59	4	0	0	0	1	1	0	1	4	4	0	0	1	1	1	Vero Beach BAY 52957		
	2	0	0	0	0	0	0	0	0	1	3	0	1	1	1	1			
	1	-	-	-	-	-	-	0	0	1	3	0	0	0	1	1			
	.5	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0			
27,179	6	4	0	0	0	0	0	0	0	0	0	0	0	1	1	1	Stauffer R-6790		
	2	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0			
27,180	25	4	0	0	0	0	0	0	1	2	3	0	0	1	2	2	Stauffer N-4548		
	2	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0			
27,193	51	4	0	0	0	0	0	0	0	1	1	0	0	1	1	1	Geigy GS-13005		
	2	-	-	-	-	-	-	0	0	0	0	0	0	0	1	1			
	1	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0			
27,234	29	4	0	0	0	0	0	0	1	1	3	1	2	2	2	2	Vero Beach BAY 51294		
	2	-	-	-	-	-	-	0	1	1	1	0	0	0	0	0			
	1	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-			



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